Family Omosudidae

Body oblong to elongate or very slender. Head large to moderate. Eye in posterior half of head. Mouth cleft very large. Lower jaw large. Jaws with enlarged teeth, not barbed. Premaxillary and maxillary slender. Gill opening large. Gills 4. Pseudobranchiae well developed. No air vessel. Stomach very distensible. Supraclavicle and postclavicle form long rod from occiput each side downward to abdomen, partly free, not covered by skin. Body and head naked. Dorsal short, advanced to premedian with age. Adipose fin present. Anal postmedian. Caudal forked. Pectoral long with age. Ventral premedian.

Genus Omosudis Günther

Omosudis GÜNTHER, Rep. Voy. Challenger, vol. 22, 1887, p. 201.

Type Omosudis lowii GÜNTHER, monotypic.

Benthalbella ZUGMAYER, Bull. Inst. Océanogr. Monaco, No. 193, 1911, p. 14. Type Benthabella infans ZUGMAYER, monotypic.

Body compressed, very slender, with long tapering tail with age. Head pointed. Snout rather long, conic. Eye large, in posterior half of head. Mouth with mandible protruding. Row of single teeth in upper jaw and somewhat larger row in mandible. Palate toothless. Tongue with 8 strong teeth. Gill rakers very strong. Branchiostegals 6? to 8. Body scaleless. Dorsal premedian, small. Long low adipose fin median with age. Anal long, low. Pectoral long, inserted in lower half of body depth. Ventral rather long, inserted before dorsal.

Omosudis fowii Günther

Omosudis lowii GÜNTHER, Rep. Voy. Challenger, vol. 22, 1887, p. 201, pl. 51, figs. c - c^1. Philippine Islands, N. Lat. 4°33' E. Long. 127°6', in 500 fathoms. --GOODE and BEAN, Oceanic Ichth., 1895, p. 122, pl. 40, fig. 150 (compiled). --FOWLER, Proc. Acad. Nat. Sci. Philadelphia, 1901, p. 212 (compiled)

Omosudis lowei BRAUER, Deutsch. Tiefsee Exp. Valdivia, vol. 5, Tiefsee-Fische, 1906, p. 140 (diagnosis in key). --PARR, Bull. Bingham Oceanogr. Collection, vol. 3, art. 3, Dec. 1928, p. 171 (Atlantic materials).

Omosudis lowei indicus BRAUER, Deutsch. Tiefsee Exp. Valdivia, vol. 5, Tiefsee-Fische, 1906, p. 142, text figs. 69. Gulf of Guinea, N. Lat. 0°25'8" E. Long. 7°0'3", in 2000 meters; north of Cocos Islands, S. Lat. 10°8'2" E. Long. 97°14', in 2400 meters; Chagos Archipelago, S. Lat. 6°19'3" E. Long. 73°18'9", in 1900 meters; between Seychelles and Zanzibar, S. Lat. 4°38'6" E. Long. 51°16'6", in 2000 meters.

Omosudis elongatus BRAUER, Deutsch. Tiefsee Exp. Valdivia, vol. 15, Tiefsee-Fische, 1906, p. 140, fig. 68. Gulf of Guinea (N. Lat. 2° to S. Lat. 3° E. Long. 3° to 7°), in 1200 to 3500 meters; North of Cocos Island (S. Lat. 10°8'2" E. Long. 97°14'9"), in 2400 meters; Bay of Bengal (N. Lat. 7°1'2" E. Long. 85°56'5"), in 2500 meters; South of Ceylon (N. Lat. 4°56' E. Long. 78°15'3"), in 2000 meters; Chagos Archipelago (S. Lat. 6°19'3" E. Long. 73°18'9"), in 3396 meters; Seychelles (S. Lat. 3°24'6" E. Long. 58°38'1"), in 2000 meters. --GILCHRIST and VON BONDE, Fisher. Marine Biolog. Surv. South Africa, Rep. No. 3, 1922 (1924), No. 7, p. 7(off Natal, 600 fathoms). -- BARNARD, Ann. South African Mus., vol. 21, pt. 1, June 1925, p. 249 (off Natal).

Benthalbella infans ZUGMAYER, Bull. Inst. Océanogr. Monaco, No. 193, 1911, p. 14.

Rés. Camp. Sci. Monaco, vol. 35, 1911, p. 140, pl. 2, fig. 8 (type from N. 36°00'40" W. 10°18', 4740 meters). --SCHMIDT, Rep. Danish Océanogr. Rep. Medit., vol. 2, A. 5, 1918. p. .--

PARR, Bull. Bingham Oceanogr. Collection, vol. 3, art. 3, Dec. 1928, p. 157 (compiled).

Depth 4 2/5; head 3, width 3 1/4. Snout 3 in head from upper jaw tip; eye 3 2/5, 1 1/8 in snout, greater than interorbital; maxillary extends half eye diameter behind eye, length equals head from snout tip; upper teeth with 2 short curved ones in front each side then much smaller close set universal jaw teeth; 2 pairs of long depressible upper canines, front pair longer; lower jaw teeth larger, especially posteriorly, than maxillary, and canine still larger and depressible anterior each side; interorbital 4 1/2, low, concave. Gill rakers as few wide set feeble points; gill filaments 1 1/2 in eye.

No scales.

D. I, 7, rays feeble, broken, fin base about long as snout; A. I, 10; ?, rays very feeble, short, broken, fin base slightly longer than snout; caudal damaged, small; least depth of caudal peduncle 5 4/5 in total head length; pectoral 2 3/4?; ventral 2 3/4 in eye.

Brown, paler below. Iris neutral gray. Fins all whitish.

43856 U. S. N. M. N. 28°47'30" W. 87°27'. Albatross Station 2392. 1885.
Length 61 mm.

Caulopus GILL, Proc. Acad. Nat. Sci. Philadelphia, 1862, p. 128.

Type Alepisaurus altivelis POEY, designated by JORDAN and GILBERT,

Bull. U. S. Nat. Mus., No. 17, 1882, p. 276.

Body compressed. Head attenuate, compressed. Snout conic. Eye moderate or large. Maxillary without supplemental bone. Series of small teeth entire length of premaxillary, anterior sometimes larger or curved. Palatine teeth compressed, triangular, pointed, several anterior very long fangs, others moderate. Mandibular teeth like palatine, 1 anterior and 2 or 3 median pairs.

Family Alepisauridae

Body greatly elongated, tapering back. Head rather large. Snout produced, long. Mouth cleft wide. Premaxillaries very long, slender, not protractile, form entire upper jaw edge. Maxillary thin, long, immovable. Teeth variable, erect. Opercles thin, membranaceous. No barbel. Gill openings very wide. Pseudobranchiae large. Branchiostegals 5 to 7. No air vessel. Vertebrae 51. Abdominal ribs extend symmetrically whole length of abdomen before anal fin. Body scaleless. No photophores. Dorsal very long, extends nearly whole length of back. Adipose fin present. Anal moderate. Caudal widely forked. Ventral abdominal.

Widely distributed in temperate and tropical seas. Fishes of large size and formidable dentition. The Cretaceous Apateodus, known from remains of the skull, appears related.

Analysis of genera

a^1. Skull moderately long; palatine teeth 3 or 4 large canines erect or directed back; jaws rather deep. - - - - - - - - - - - - - - - Alepisaurus.

a^2. Skull greatly elongate; palatine teeth 5 or 6 large canines directed forward; jaws very slender. - - - - - - - - - - - - - - Eugnathosaurus.

Genus Alepisaurus Lowe

Alepisaurus LOWE, Proc. Zool. Soc. London, vol. 1, 1833, p. 104.

Type Alepisaurus ferox LOWE, monotypic.

Alepidosaurus GÜNTHER, Cat. Fishes Brit. Mus., vol. 5, 1864, p. 420.

Type Alepisaurus ferox LOWE. Emendation.

Plagyodontis (STELLER) PALLAS, Zool. Ross. Asiat., vol. 3, 1811, p. 383. Atypic. Type Alepisaurus aesculapius BEAN, designated by JORDAN and EVERMANN, Genera of Fishes, pt. 1, 1917, p. 84. Inadmissible.

Plagyodum PALLAS, Zool. Ross. Asiat., vol. 3, 1811, p. 383. Atypic.

Type Alepisaurus aesculapius BEAN.

Much enlarged. Tongue toothless. Gill rakers short, spine like. Gill membranes not united, free from isthmus. Dorsal rays more than 40, slender, simple, all depressible in deep groove, fin invisible when depressed. Adipose fin moderate. Ventral nearly median, rays 9 to 13, first simple and spine like.

Analysis of species

a[1]. Alepisaurus. Ventral small, rays 8 to 10. - - - - - - - - ferox.

b[2]. Caulopus. Ventral rather long, rays 13. - - - - - - - - altivelis.

Aleipsaurus ferox Lowe

Alepisaurus ferox LOWE, Proc. Zool. Soc. London, vol. 1, 1833, p. 104. Maderia; Trans. Zool. Soc. London, vol. 1, 1835, p. 128, pl. 19, p. 395, pl. 95; vol. 2, 1837, pt. 3, p. 181 (Madeira). --VALENCIENNES, Hist. Nat. Poiss., vol. 22, 1849, p. 529 (copied). --JOHNSON, Ann. Mag. Nat. Hist., vol. 10, 1862, p. 317 (Madeira). --CARUS, Prodr. Faun. Medit., vol. 2, 1893, p. 568 (compiled). --GOODE and BEAN, Oceanic Ichth., 1895, p. 117, pl. 38, fig. 142 (New York markets; N. 44°30' W. 57°13'; N. 42°45' W. 63°, 195 fathoms; Le Have Bank, 120 to 275 fathoms; N. 42°37' W. 62°55'; N. 43°46' W. 61°18', 200 fathoms). --JORDAN and EVERMANN, Bull. U. S. Nat. Mus., No. 47, pt. 1, 1896, p. 595 (compiled). --FOWLER, Proc. Acad. Nat. Sci. Philadelphia, 1911, p. 571 (N. 5° W. 164°). --BARNARD, Ann. South Afric. Mus., vol. 21, pt. 1, June 1925, p. 250, pl. 10, fig. 2 (near East London). -- McCULLOCH, Fishes New South Wales, ed. 2, 1927, p. 20, pl. 6, figs. 68a.-- FOWLER, Mem. Bishop Mus., vol. 10, 1928, p. 71, fig. 15 (larva, on above record).

Alepidosaurus ferox GÜNTHER, Archiv Naturg., 1860, p. 121

( ); Cat. Fishes Brit. Mus., vol. 5, 1864, p. 421

(type; Madeira; Tasmania). --CANESTRINI, Fauna Italica,Pesci, 1874,

p. 128 (Sicily). --MACLEAY, Proc. Linn. Soc. New South Wales,

vol. 6, 1881, p. 226 (copied). --BEAN, Proc. U. S. Nat. Mus.,

vol. 4, 1881(1882), p. 259 (Unalaska). --JORDAN and GILBERT,

Bull. U. S. Nat. Mus., No. 16, 1882, p. 276 (compiled). --COLLETT,

Bull. Soc. Zool. France, vol. 15, 1890, p. 223 (Funchal, Madeira). --

VINCIGUERRA, Atti Soc. Ital. Sci. Nat., vol. 34, 1892, p. 330

(Canaries). --VAILLANT, Rés. Sci. Camp. Monaco, vol. 52, 1919,

p. 130 (not locality, 2480 meters).

Plagyodus ferox GUNTHER, Rep. Voy. Challenger, vol. 22, 1887, p. 203

(Tasmania). --COLLETT, Rés. Sci. Camp. Monaco, vol. 10, 1896,

p. 119, pl. 4, fig. 16 (N. 44°1'26" W. 15°31', surface). --FRANZ,

Abhandl. Kais. Bayer. Akad. Wiss., vol. 4, Suppl. Band 1, 1910,

p. 18 (Yokohama and Aburatsubo).

Plagiodus ferox IZUKA and MATSUURA, Cat. Zool. Spec. Tokyo Mus., Vertebr., 1920, p. 180 (Boshiu).

Alepisaurus azureus VALENCIENNES, Hist. Nat. Poiss., vol. 23, 1849, p. 530. Grand Canary (drawing by Webb).

Alepidosaurus aesculapius BEAN, Proc. U. S. Nat. Mus., vol. 5, 1882 (1883), p. 661. Unalaska. --HARTLEY, Proc. California Acad. Sci., vol. 1895, p.

Alepisaurus aesculapius GOODE and BEAN, Oceanic Ichth., 1895, p. 117 (reference). --JORDAN and EVERMANN, Bull. U. S. Nat. Mus., No. 47, pt. 1, 1896, p. 595 (compiled).

Depth 9 1/5 to 10 1/2; head 5 2/5 to 5 3/5, width 3 1/5 to 4 1/8. Snout 2 1/4 to 3 1/8 in head from snout tip; eye 4 to 6 1/4, 1 1/5 to 2 7/8 in snout, greater than interorbital in young to equal to front of interorbital with age, adipose lids only narrow border or marginal; maxillary extends 1/2 to 4/5 eye diameters behind eye, length 1 2/5 to 1 1/2 in head from snout tip; upper jaw teeth very small, uniserial in outer row and inner row of large strongly compressed teeth, first 4 anterior largest and others gradually smaller; lower teeth much larger and broader posteriorly in jaws, 2 canines each side in front and 3 larger ones just before middle; interorbital 5 4/5 to 6 1/2, nearly level, opercle, subopercle and side of mandible basally with strong radiating striae. Gill rakers 5 or 6 + 13 to 20, short points, 1 2/3 in gill filaments which 1 3/4 in eye.

Lateral line median or axial along side.

D. 39; A. 15 to 17; adipose fin 3 1/4 to 4; caudal long as head in young to much greater with age, deeply forked, with broad lobes; least depth of caudal peduncle 7 to 8; pectoral equals head or longer; ventral 1 3/4 to 3 1/8, front edge of spine finely granular.

Dark brown, burnished with silvery white on sides of head. Dorsal with blackish membrane. Adipose fin dark brown. Anal and caudal brown. Pectoral blackish. Ventral dark gray, silvery white basally.

860 U. S. N. M. Unalaska. Dr. T. H. Bean. Length 1260 mm. Pectoral long as head. V. I , 7. As Caulopus borealis.

20593 U. S. N. M. New York market. Eugene Blackford. Length 1465 mm., of body without missing head. D. 44. V. I, 8, front edge of spine finely serrated. A. 16.

22292 U. S. N. M. Length 1365 mm. D. 34. A. 17. V. I , 8. Caudal 5 1/2 in rest of body; pectoral 4 2/5.

22293. U. S. N. M. Length 1607 mm. D. 36. Adipose fin 3 in total head length; caudal 1; ventral 2. Pectoral 4 2/3 in body to caudal base, fin long as first dorsal ray. V. I, 9. Gill rakers 5 + 19.

25262 U. S. N. M. N. 44° W. 57°. B. Gilpatrick. Length 440 mm. Upper inner canines 2 pairs, first pair before nostrils and followed closely on left side with third longer and depressible canine; lower canines 2 pairs, first anterior and second pair follow close behind upper front pair as jaw closes. V. I, 8.

Back brown. Sides and lower surfaces all silvery gray with fine brown dots or minute spots. Iris silvery neutral gray. Dorsal blackish brown. Adipose fin blackish brown. Caudal dark brown. Pectoral brown, blackish terminally. Ventral brown, dusky to blackish terminally and inner margins whitish.

44055 U. S. N. M. Length 1438 mm.

50355 U. S. N. M. Misaki, Japan. Bureau of Fisheries. Length 1040 mm. Upper canines as front upper inner pair and second inner pair before front of eye above; lower canines as pair at front of mandible and 3 close set pairs before middle of mandible. D. 35. A. 14. V. I, 8, front edge of spine roughly granular.

57805 U. S. N. M. Monterey, California. Mr. Jones. Length 1050 mm. Above 4 large front inner canines (as 2 pairs) and third pair below front of eye; lower canines as small pair at front of jaws, then 2 larger pairs before middle of jaws. V. I, 7, front edge of spine granular.

61263 U. S. N. M. Alaska. D. S. Jordan. Large example, bisected, 1290 mm. total length. V. I, 7.

1 example U. S. N. M. No data. Length 1050 mm. V. I, 8. In poor condition.

Alepisaurus altivelis Poey

Alepisaurus altivelis POEY, Mem. Hist. Nat. Cuba, vol. 2, 1861, p. 302. Cuba. --JORDAN and EVERMANN, Bull. U. S. Nat. Mus., No. 47, pt. 1, 1896, p. 596 (compiled).

Alepidosaurus altivelis GÜNTHER, Cat. Fishes Brit. Mus., vol. 5, 1864, p. 423 (compiled).

Alepisaurus(Caulopus) altivelis GOODE and BEAN, Oceanic Ichth., 1895, p.118 (reference).

Caulopus altivelis JORDAN, EVERMANN, CLARK, Rep. U. S. Commissoner Fisher., 1928, pt. 2 (1930), p. 171 (reference).

Alepidosaurus (Caulopus) borealis GILL, Proc, Acad. Nat. Sci. Philadelphia, 1862, p. 128. Puget's Sound.

Alepidosaurus borealis GÜNTHER, Cat. Fishes Brit. Mus., vol. 5, 1864, p. 423 (compiled). --JORDAN and GILBERT, Bull. U. S. Nat. Mus., No. 16, 1882, p. 276 (compiled).

Alepisaurus borealis JORDAN and EVERMANN, Bull. U. S. Nat. Mus., No. 47, pt. 1, 1896, p. 596 (type; Captain's Harbor, Unalaska; Puget Sound; Aleutian Islands).

Caulopus borealis JORDAN, EVERMANN, CLARK, Rep. U. S. Commissoner Fisher., 1928, pt. 2 (1930), p. 171 (reference).

Alepidosaurus (Caulopus) serra GILL, Proc. Acad. Nat. Sci. Philadelphia, 1862, p. 129 "Monterey, lower California".

Alepisaurus serra JORDAN and EVERMANN, Bull. U. S. Nat. Mus., No. 47, pt. 1, 1896, p. 597 (compiled).

Alepidosaurus (Caulopus) poeyi GILL, Proc. Acad. Nat. Sci. Philadelphia, 1862, p. 131. Cuba.

Caulopus poeyi GOODE and BEAN, Oceanic Ichth., 1895, p. 118 (reference).

Genus Eugnathosaurus Regan

Eugnathosaurus REGAN, Rep. Sci. Res. Voy. Scotia, vol. 4, Zool., pt. 15, May 23, 1913, p. 216. Type Eugnathosaurus vorax REGAN, monotypic.

Skull very elongate, strongly compressed, upper surface somewhat convex, with fairly prominent median ridge. Snout and lower jaw much extended, each ending in fleshy appendage. Lower jaw projects beyond upper, suspensorium directed obliquely forward. Teeth pointed, uniserial; premaxillary teeth minute; mandibulary teeth sub-conical, erect or somewhat retrorse, strongest in middle of length of jaw, more spaced posteriorly; palatine teeth strong, compressed, curved somewhat forward.

Eugnathosaurus vorax Regan

Eugnathosaurus vorax REGAN, Rep. Sci. Res. Voy. Scotia, vol. 4, Zool., pt. 15, May 23, 1913, p. 316. S. 71°22' W. 16°34', 1410 fathoms, off Coats Land.

3 sp.

Snout 1 2/3 in head from snout tip; orbit 9, 5 1/3 in snout; mouth cleft reaching orbit. (Regan.)

Antartic Ocean. Only known from a skull 150 mm. long and dentaries of a second specimen from same locality. The antrorse palatine teeth especially peculiar.

Family Evermannellidae

Body oblong to elongate, compressed. Head large. Snout short. Eye large, orbital cavity expanded downward. Mouth large, widely cleft. Teeth unequal. Large canines slender, barbed, form regular series in lower jaw. Gill opening very wide. Pseudobranchiae well developed. No air vessel. Body naked. Skull considerably expanded behind narrow interorbital. Vertebrae 52, ribs on short processes. Scales absent. No luminous organs. Dorsal premedian, advanced near or before ventral. Adipose fin present. Caudal forked. Paired fins moderate.

Genus Evermannella Fowler

Evermannella FOWLER, Proc. Acad. Nat. Sci. Philadelphia, 1901, p. 211.

Type Scopelus balbo RISSO = Odontostomus hyalinus COCCO.

Evermannella FOWLER proposed to replace Odontostomus COCCO. (Precludes Evermannella EIGENMANN 1903.)

Odontostomus (not BECK 1837) COCCO, Nuovi Ann. Sci. Nat. Bologna, vol. 2, 1838, p. 192. Type Odontostomus hyalinus COCCO, monotypic.

Coccorella ROULE,

Base

Body compressed, moderately long. Eye greatly advanced, large, deep orbital cavity with wide transparent membranous lateral fold or wall. Mouth very large, mandible protruding. Premaxillary and maxillary slender. Teeth on premaxillaries with series of small subequal teeth. Lower jaw, vomer and palatines with few depressible very large fangs. No gill rakers. Branchiostegals 8. Dorsal short, rays 7 to 14. Adipose fin far back. Anal long, rays 25 to 35. Caudal small. Pectoral low, near

Evermannella atrata (Alcock)

Odontostomus atratus ALCOCK, Journ. Asiatic Soc. Bengal, vol. 62, pt. 2, 1893, p. 182, pl. 9, fig. 4. Bay of Bengal, in 573 fathoms; vol. 62, pt. 2, 1896, p. 333 (reference), Cat. Deep Sea Fishes Indian Mus., 1899, p. 167 (type; Andaman Sea, in 370 to 419 fathoms); Illustrat. Zool. Investigator, Fishes, pt. 7, 1900, pl. 33, fig. 3.

Evermannella atrata FOWLER, Proc. Acad. Nat. Sci. Philadelphia, 1901, p. 211 (compiled). --BRAUER, Deutsch. Tiefsee Exp. Valdivia, vol. 15, Tiefsee-Fische, 1906, p. 136, pl. 10, figs. 3-4 (Chagos Archipelago, in 2000 to 2926 meters). --PARR, Bull. Bingham Oceanogr. Collection, vol. 3, art. 3, Dec. 1928, p. (163) 166, text fig. 60 (dorsal views of heads.

Coccorella atrata ROULE and ANGEL, Res. Camp. Sci. Monaco, vol. 79, 1930, p. 60, pl. 3, figs. 77-79 (between Canaries and Azores, 3200 meters).

Evermanella indica BRAUER, Deutsch. Tiefsee Exp. Valdivia, vol. 5, Tiefsee-Fische, 1906, p. 135. North of Cocos Islands, S. Lat. 10°8'2" E. Long. 97°14'9", in 2400 meters; Seychelles, S. Lat. 3°24'6" E. Long. 58°38'1", in 2000 meters; Zanzibar, S. Lat. 5°42'3" E. Long. 43°36'5", in 1500 meters. --WEBER, Siboga Exp., vol. 57, Fische, 1913, p. 83 (Banda Sea, S. Lat. 6°47.5' E. Long. 128°40.5', in 750 meters). --WEBER and BEAUFORT, Fishes Indo Austral. Archipelago, vol. 2, 1913, p. 182, fig. 72 (WEBER'S example). --PARR, Bull. Bingham Oceanogr. Collection, vol. 3, art. 3, 1828, p. (164) 170 (compiled).

Evermannella atrata atlantica PARR, Bull. Bingham Oceanogr. Collection, vol. 3, art. 3, Dec. 1928, p. (163) 166, text fig. c (head above). N. Lat. 23° - 24° W. Long. 74° - 76°, in 4000 to 8000 feet wire.

Evermannella atrata melanoderma PARR, Bull. Bingham Oceanogr. Collection, vol. 3, art. 3, Dec. 1928, p. (164) 170. N. Lat. 32°24' W. Long. 64°29', in 10000 wire feet.

Depth 3 2/3; head 3 1/3, deep, Snout 5 in head from snout tip; eye 5, equals snout; maxillary greatly inclined, extends 2/3 eye diameter behind eye, expansion 2 in eye, length 1 1/3 in head from snout tip; interorbital low. Gill rakers inconspicuous or absent.

Skin glandular, scaleless. Lateral line axial as white streak on trunk.

D. II, 10, second branched ray 1 4/5 in total head; adipose fin 3; A. I, 27, first branched ray 3 1/4; caudal 1 4/5, forked; least depth of caudal peduncle 3; pectoral 1 7/8; ventral 2 1/10. Length 89 mm.

Atlantic, Indian Oceans, Banda Sea.

Evermannella balbo (Risso)

Scopelus balbo RISSO, Mem. Reale Accad. Sci. Torino, vol. 25, 1820-22, p. 268, pl. 10, fig. 3. Nice; Hist. Nat. Eur. Mérid., vol. 3, 1826, p. 466 (Nice).

Odontostomus balbo SASSI, Nuov. Ann. Sci. Nat. Bologna, ser. 2, vol. 6, 1846, p. 388 (Genoa). --BONAPARTE, Cat. Metod. Pesci Europ., 1846, p. 37 (reference). --MOREAU, Hist. Nat. Poiss. France, vol. 3, 1881, p. 495, fig. 201; Manuel Ichth. France, 1892, p. 540 (Nice). -- Schmidt, Rep. Danish Oceanogr. Exp. Medit., vol. 2, A. 5, 1918, p.

Evermannella balbo FOWLER, Proc. Acad. Nat. Sci. Philadelphia, 1901, p. 211 (compiled). --PARR, Bull. Bingham Oceanogr. Collection, vol. 3, art. 3, Dec. 1928, p. 164 (compiled).

Odontostomus hyalinus COCCO, Nuov. Ann. Sci. Nat. Bologna, vol. 2, 1838, p. 192, pl. 8, fig. 11. Sicily. --BONAPARTE, Fauna Italica, vol. 3, Pesc. vol. 3, pt. 1, fasc. 27, 1840, no pagination, pl., fig. 6; Cat. Metod. Pesc. Europ., 1846, p. 37 (Mediterranean). -- VALENCIENNES, Hist. Nat. Poiss., vol. 22, 1849, p. 424 (Nice). -- GÜNTHER, Cat. Fishes Brit. Mus., vol. 5, 1864, p. 417 (compiled). --CANESTRINI, Fauna Italica, Pesci, 1874, p. 126 (Sicily, Nice, Genoa). --GÜNTHER, Rep. Voy. Challenger, vol. 22, 1887, p. 200, pl. 52, fig. A (Nice). --CARUS, Prodr. Medit., vol. 2, 1893, p. 566 (compiled). --GOODE and BEAN, Oceanic Ichth., 1896, p. 121, pl. 38, fig. 145 (Nice). --GARMAN, Mem. Mus. Comp. Zool., vol. 24, 1899, p. 402 (reference). --ROULE and ANGEL, Rés. Camp. Sci. Monaco, vol. 79, 1930, p. 39 (note).

Evermannella hyalina REGAN, Ann. Mag. Nat. Hist., ser. 8, vol. 7, 1911, p. 130 (skeleton).

Depth 4 3/4; head 4 1/8, width 3 1/3. Snout 4 in head from upper jaw tip; eye 4 1/3, 1 1/6 in snout, greatly exceeds narrow bony interorbital; maxillary narrow, extends 4/5 eye diameter behind eye but not to preopercle ridge, expansion 2 1/5 in eye, length 1 1/4 in head from upper jaw tip; maxillary and premaxillary teeth all uniformly small; 2 long depressible fangs on vomer long as eye and half of snout and 4 much shorter depressible teeth on each palatine; each mandibular ramus with 6 depressible fangs, second longest and graduated down to last, first shortest; interorbital low, bony, width 1/3 of eye. Gill rakers as row of very short, minute denticles; gill filaments 1 1/3 in eye.

Scales all fallen. Lateral line of 16 pores anteriorly or before ventrals.

D. I, 11, I, first branched ray 1 3/5? in total head length; adipose fin 3 2/5; A. II, 32, I, first branched ray 2 1/4?; caudal 2, small, lobes well pointed; least depth of caudal peduncle 4; pectoral 1 7/8?; ventral 2 1/6?

Pale or light brown. Iris gray white. Fins whitish.

40054 U. S. N. M. Nice. Florence Museum. Length 120 mm.

Evermannella normalops Parr

Evermannella normalops PARR, Bull. Bingham Oceanogr. Collection,

vol. 3, art. 3, Dec. 1928, p. (163) 164, fig. 39a (head).

N. 24°29' W. 77°29', 8000 feet.

Depth?; head 4 3/5, width 2 1/4. Snout 4 in head from snout tip; eye 7, 1 2/3 in snout, 1 4/5 in interorbital; maxillary extends 1 1/2 eye diameters behind eye, expansion 1 1/3 in eye, length 1 2/5 in head; premaxillary with series of small decurved oblique teeth; dentaries with 5 fangs each, second longest and 2 to 4 minute teeth around base of each fang of dentaries; 1 enormous fang on each palatine, followed by widely interspaced series of 4 smaller fangs; interorbital 3 7/8, moderately low.

Lateral line extends till above middle of anal fin.

D. 13; A. 31; pectoral 12; ventral 9.

Dark brown, with purplish metallic luster. Length 55 mm. without caudal. (Parr.)

Western North Atlantic.

Family Scopelarchidae

Body elongate, compressed. Snout conic. Eyes telescopic, lateral, directed upward. Mouth cleft wide. Premaxillary large. Maxillary, if present, small. Teeth on premaxillaries, dentaries, vomer, palatines and tongue, depressible and unequal. Gill openings wide, membranes separate. Gill rakers small. Pseudobranchiae present. Gills 4. Scales very deciduous or absent? Dorsal short, before ventral. Adipose fin high, over hind half of anal. Anal long, postmedian. Caudal forked. Ventral premedian.

Analysis of genera

a^1. Eyes telescopic; pectoral longer than ventral; depth 5 1/4. - Scopelarchus.

a^2. Eyes partly telescopic; ventral longer than pectoral. - Scopelarchoides.

a^3. Eyes normal; paired fins small; depth 3 1/8. - - - - - - - - Promacheon.

Genus Scopelarchus Alcock

Scopelarchus ALCOCK, Journ. Asiatic Soc. Bengal, vol. 65, pt. 2, 1896, p. 307. Type Scopelarchus guentheri ALCOCK, monotypic.

Dissoma BRAUER, Zool. Anzeiger, vol. 25, 1902, p. 278. Type Dissoma anale BRAUER, monotypic.

Boyd oblong, slightly compressed, subcylindrical. Eyes telescopic. Premaxillaries long, slender, with only small cardiform teeth. Lower jaw with outer series of small cardiform teeth and inner series of larger fangs. Vomer and palatines with fangs. Series of smaller, compressed, decurved, barbed teeth along entire upper surface of tongue. Scales thin, cycloid, somewhat irregularly arranged. Dorsal short, median. Adipose fin present, above hind part of anal. Anal very long, postmedian. Rudimentary caudal rays rather long series. Pectoral large, rays strong, inserted high, upper rays near lateral line than ventral profile of body.

Scopelarchus analis (Brauer)

Dissoma anale BRAUER, Zool. Anzeiger, vol. 25, 1902, p. 278, fig. (eye). South Atlantic, Antarctic and Indian Oceans, in 600 to 4000 meters; Deutsch. Tiefsee Exp. Valdivia, vol. 15, Tiefsee-Fische, 1906, p. 138, text figs. 1 - 2, pl. 10 (Canaries; Gulf of Guinea; west of Cape of Good Hope; east of Bouvet; Antarctic Ocean; Port Elizabeth; South Africa; north of Cocos Islands; in 600 to 4000 meters). --WEBER, Siboga Exp., vol. 57, Fische, 1913, p. 84 (Banda Sea, in S. Lat. $3^{\circ}32.5'$ E. Long. 124° 15.5', in 1500 meters). --WEBER and BEAUFORT, Fishes Indo. Austral. Archilepago, vol. 2, 1913, p. 181, fig. 71 (Weber's materials). --REGAN, Fishes Brit. Antarctic Terra Nova Exp., Nat. Hist. Rep. Zool., vol. 1, No. 1, 1914-16, p. 39 (reference). --BARNARD, Ann. South Afric. Mus., vol. 21, pt. 1, June 1925, p. 248, pl. 10, fig. 1 (compiled).

Scopelarchus anale PARR, Bull. Bingham Oceanogr. Collection, vol. 3, art. 3, Dec. 1928, p. 160, fig. 38 (N. 21° to 32° W. 61° to 77°, 7000 to 8000 feet).

Scopelarchus guentheri ALCOCK, Journ. Asiatic Soc. Bengal, vol. 65, pt. 2, 1896, p. 307. Off Indus Delta, in 947 fathoms (♀); p. 332 (reference); Illustrat. Zool. Investigator, Fishes, pt. 4, 1896, pl. 17, fig. 7.

Scopelarchus güntheri ALCOCK, Cat. Deep Sea Fishes Indian Mus., 1899, p. 153. --PARR, Bull. Bingham Oceanogr. Collection, vol. 3, art. 3, Dec. 1928, p. 159 (compiled).

Odontostomus perarmatus ROULE, Bull. Inst. Oceanogr. Monaco, No. 320, May 20, 1916, p. 25. West of the Azores, in 2100 to 2600 meters.

Odontostomus (Dissoma) perarmatus ROULE, Res. Camp. Sci. Monaco, fasc. 52, 1919, p. 32, pl. 5, figs. 2 - a (types).

Depth 5 1/4; head 4 1/2, width 1 7/8. Snout 3 1/6 in head from snout tip; eye 2 2/5, directed superiorly, greatly exceeds snout and narrow bony interorbital; maxillary extends back opposite hind eye edge, length 1 1/8 in head from snout tip; upper jaw teeth all uniformly small, with 3 canines anteriorly larger and depressible; mandible with outer row of small teeth and inner row of depressible fangs, second and third longest; narrow bony interorbital width 3 1/2 in eye. Gill rakers as row of minute points or asperities; gill filaments long as eye.

Scales 47 in median lateral series to caudal base, greatly larger than others or depth at anal origin 2 4/5 in body depth at same point; 3 scales above lateral line scales, 4 below, 13 predorsal to occipital ridge. Scales very caducous, most all having fallen except some in lateral line. In structure scales simple, thin, entire.

D. I, 6, second branched ray 2 1/3 in total head length; adipose fin 2 1/4; A. II, 25, I, first branched ray 2; caudal 1, well forked, lobes rather rounded; least depth of caudal peduncle 2 3/4; pectoral 1 1/8; ventral 2 1/10.

Light brownish, scale pockets on back darker. Iris slate gray. Fins all pale to whitish.

3870. D. 5618. March Island, S. 69° E., 7.8 miles (N. 0°37' E. 127°15'), Molucca Passage. In 417 fathoms. November 27, 1909. Length 110 mm.

Genus Scopelarchoides Parr

Scopelarchoides PARR, Occas. Pap. Bingham Oceanogr. Collection, No. 2, 1929, p. 16. Type Scopelarchoides nicholsi PARR, monotypic.

Body elongate, with long tapering tail. Head large. Snout moderate. Orbit large. Mouth large, mandible protruding. Premaxillary teeth small, subequal, decurved, depressible anteriorly, minute erect, fixed, uniserial posteriorly. Lower teeth with dozen compressed, depressible each side. Each palatine with 2 compressed fangs anteriorly, followed by double series of long slender teeth. Scales cycloid, thin, small. Lateral line with greatly enlarged scales. Dorsal far advanced, over ventral. Adipose fin large. Anal long. Caudal large. Paired fins well developed, ventrals larger. Pectoral rays 20 to 22. Ventral rays 9.

Scopelarchoides nicholsi Parr

Scopelarchoides nicholsi PARR, Occas. Pap. Bingham Oceanogr. Collection, No. 2, 1929, p. 16. N. 16°14' W. 99°36'30", 1800 fathoms; Bull. Bingham Oceanogr. Collection, vol. 2, art. 4, Oct. 1931, p. 35, fig. 15 (types; N. 24°7' W. 108°40', 286 fathoms; N. 11°5' W. 89°20'45", 2000 fathoms; Pacific).

Depth 5 3/4; head 3 3/5. Snout to orbit 4 1/4 in head from snout tip; orbit 3 1/8, greater than snout; maxillary reaches opposite hind eye edge, 2 in head from snout tip.

D. 6 or 7, fin height 1 1/5 in total head length; adipose fin 2 1/8; A. 21 to 23, fin height 1 4/5; caudal 1; least depth of caudal peduncle 3 1/8; pectoral 2 1/5; ventral 1 1/2. Length 115 mm. without caudal. (Parr.)

Pacific, off Mexico.

Genus Promacheon Weber

Promacheon WEBER, Siboga Exp., vol. 57, Fische, 1913, p. 84.

Type Promacheon sibogae WEBER, monotypic.

Body rather deep. Head large, conic. Eye small, premedian. Mouth wide, nearly horizontal. Premaxillary, with slender maxillary above, forms upper jaw. Point of each premaxillary with prominent triangular tooth, directed forward and slightly downward. No teeth on palate. Gill membranes free from isthmus, connected behind symphysis. Branchiostegals 6, short. Stomach and abdomen not distensible. Scales present in lateral line. Dorsal long, postmedian. Adipose fin present. Anal long, like dorsal, slightly more posterior. Caudal emarginate. Pectoral low. Ventral inserted slightly before dorsal.

Promacheon sibogae Weber

Promacheon sibogae WEBER, Siboga Exp., vol. 57, Fische, 1913, p. 85, fig. 20. Banda Sea, S. Lat. 3°58' E. Long. 128°20', in 2000 meters; S. Lat. 4°30.2' E. Long. 129°25', in 1000 meters. -- WEBER and BEAUFORT, Fishes Indo Austral. Archipelago, vol. 2, 1913, p. 183, fig. 73 (WEBER'S materials). --PARR, Bull. Bingham Oceanogr. Collection, vol. 3, art. 3, Dec. 1928, p. 158 (compiled).

Depth 3 1/8; head 2 4/5. Snout 2 1/3 in head; eye 6, 2 1/4 in snout; premaxillary extends 3/4 eye diameter behind eye, length 1 1/4 in head, with prominent anterior tooth and series of partly curved larger teeth directed backward, smaller ones between and both kinds of teeth, smaller, in mandible; interorbital high.

Scales in lateral line 32, continuous to hypural.

D. 14, fin base 2 1/10 in head; adipose fin 5; A. 17 or 18, fin base 1 3/4; caudal short; least depth of caudal peduncle 3 1/2; pectoral rays 15, short?; ventral rays 10, length 4 1/5 in head. Length 20 mm.

(Weber.)

Banda Sea.